

REMARKS**I. Status of the Claims:**

This Preliminary Amendment is responsive to the Office Action of June 29, 2005. By this Amendment, claims 37-72, and 74-86 are now pending in this application. Claims 1-36 and 87-89 have been canceled without prejudice or disclaimer. Claims 37, 44-47, 53, 57-58, 62, 69, 78, 82-83, and 86 are sought to be amended. Applicants believe that no new matter has been introduced by this Preliminary Amendment. Entry of this Amendment before examination on the merits is respectfully requested.

A Request for Continued Examination (RCE) is submitted concurrently herewith.

II. Rejections under 35 U.S.C. § 103:

Claims 1-3, 7, 9-11, 13-14, 17-19, 23, 25-27, 29-30, and 33-42, 44-46, 48, 52-55, 57-58, 60, 62-66, 69-71, 77-80, 82-83, and 85-86 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 5,371,613 to Arimoto et al. ("Arimoto") in view of U.S. Patent No. 6,072,912 to Orito ("Orito"). Applicant respectfully requests reconsideration for at least the following reasons.

Independent claims 37, 62, and 86 each recite features involving an image sensor that separately outputs image signals of a plurality of photoreceptive pixels from a plurality of channels. In addition, these claims also recite level adjusting features. In this type of the image sensor, owing to difference in characteristics of the respective output channels, level gap between image signals output from different output channels can occur. The present invention advantageously reduces the signal level differences between a plurality of output channels so as to make the border/borders between the plurality of divided areas inconspicuous in an image.

Arimoto does not disclose an image sensor which separately outputs image signals of a plurality of photoreceptive pixels from a plurality of output channels. Furthermore, the correction operation performed in the Arimoto's image sensor is a shading correction. The image sensor has one output channel, and the correction values Wave, Pave, Bave, and so on are obtained based on the signals outputted from the one output channel. Using these signals, the target value Bd1' for the shading correction to be applied to the read data is obtained (column 9, lines 41-63).

Thus, Arimoto discloses obtaining the target value Bd1' from the signals outputted from the one output channel. If Arimoto is simply applied to an image sensing apparatus having a plurality of output channels, Wave, Pave and Bave are independently calculated for each output channel, and the shading correction is performed separately for the each output channel. This is because there is no description how to combine Wave, Pave and Bave obtained for the plurality of channels, and such operation is not known from Arimoto. As a result, the difference between the signal levels owing to difference in characteristics of the respective output channels will not be adjusted.

Orito fails to overcome the aforementioned deficiencies of Arimoto. For instance, Applicant maintains that Orito fails to disclose a plurality of output channels. The Examiner alleges that Orito discloses separately outputting image signals of a plurality of divided areas from a plurality of output channels. However, Figures 8 and 9 of Orito merely show memories, not output channels, for sorting the eight sets of white level data obtained by eight times of scanning operations and nothing to do with the operation of outputting the signals from the image sensor 54.

Orito defines 1WA1, 2WA1, etc. in column 7, lines 49-54, and according to the description, the first “1” in “1WA1”, for instance, indicates a 1st scanning operation, “WA” indicates white level data, and the last “1” in “1WA1” indicates 1st CCD. Further, Orito describes that image sensor 54 produces eight sets of white level data in eight scanning operations, and each set includes 1648 pieces of white level data produced by the first through 1648th pixels. Since there is no teaching about outputting signal from each pixel as a block, which is not practical to assume because 1648 output channels are required to correspond each output channel to each block, it is apparent that the image sensor 54 does not output image signals of a plurality of photoreceptive pixels from a plurality of output channels.

For at least the reasons set forth above, claims 37, 62, and 86 differ in configuration and operation from Arimoto, Orito, and the combination thereof. Thus, Applicant asserts that Arimoto and Orito do not teach, suggest, or otherwise render obvious the invention recited in these claims.

In addition to the above rejection, the Examiner applies additional references to make the following rejections of various dependent claims under 35 U.S.C. §103:

1. Claims 4-5, and 20-21 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and U.S. Patent No. 5,526,048 to Yamamoto ("Yamamoto").
2. Claims 6, 12, 22, 28, 42-43, 47, 56, 67-68, 72, and 81 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and U.S. Patent No. 6,072,912 to Irie ("Irie").
3. Claims 8 and 24 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, U.S. Patent No. 6,072,912 to Irie ("Irie"), and U.S. Patent No. 5,457,547 to Yamada ("Yamada").

4. Claims 15-16, and 31-32 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and U.S. Patent No. 5,960,110 to Usami ("Usami").
5. Claims 49-51, and 74-76 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and U.S. Patent No. 5,912,992 to Sawada ("Sawada").
6. Claims 59, 61, and 84 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and Usami.
7. Claims 87-89 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Arimoto in view of Orito, and Sawada.

Several of these rejections involve canceled claims, and are therefore moot. With respect to the remaining rejections, these additional references do not overcome the aforementioned deficiencies of Arimoto and Orito. Therefore, Applicant requests that these rejections be withdrawn.

CONCLUSION

Based on the foregoing amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 1232-4676.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 1232-4676.

Respectfully submitted,
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Dated: _____

9/29/05

By: _____

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